

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
2 June 2005 (02.06.2005)

PCT

(10) International Publication Number  
**WO 2005/049695 A1**

(51) International Patent Classification<sup>7</sup>: C08G 73/00,  
61/00, C09K 11/00, 11/06, H05B 33/00, 33/14, H01L  
51/00, 51/30

(74) Common Representative: CIBA SPECIALTY CHEM-  
ICALS HOLDING INC.; Patent Department, Klybeck-  
strasse 141, CH-4057 Basel (CH).

(21) International Application Number:  
PCT/EP2004/052565

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(22) International Filing Date: 18 October 2004 (18.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,  
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

(30) Priority Data:  
03103982.9 28 October 2003 (28.10.2003) EP

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

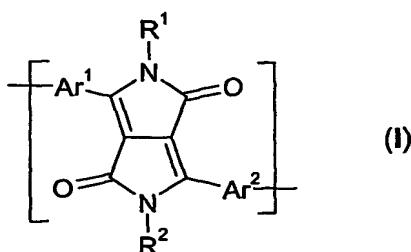
(71) Applicant (for all designated States except US): CIBA  
SPECIALTY CHEMICALS HOLDING INC. [CH/CH];  
Klybeckstrasse 141, CH-4057 Basel (CH).

(72) Inventors; and

(75) Inventors/Applicants (for US only): HEIM, Ingo  
[DE/DE]; Marienweg 42, 50226 Frechen (DE). TIEKE,  
Bernd [DE/DE]; Petersbergstrasse 12, 50321 Brühl  
(DE). LENZ, Roman [CH/CH]; Tiergartenstrasse 40,  
CH-4410 Liestal (CH). SCHMIDHALTER, Beat  
[CH/CH]; Dahlienstrasse 25, CH-4416 Bubendorf (CH).  
RABINDRANATH, Aravinda Raman [DE/DE]; Nachti-  
gallenstrasse 24, 51147 Köln (DE). DÜGGELI, Mathias  
[CH/CH]; Falkensteinerstrasse 5, CH-4053 Basel (CH).

WO 2005/049695 A1

(54) Title: NOVEL DIKETOPYRROLOPYRROLE POLYMERS



(57) Abstract: The present invention relates to polymers comprising a repeating unit of the formula (I) and their use in electronic devices. The polymers according to the invention have excellent solubility in organic solvents and excellent film-forming properties. In addition, high charge carrier mobilities and high temperature stability of the emission color are observed, if the polymers according to the invention are used in polymer light emitting diodes (PLEDs).